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# CHAPTER 2

## LITERATURE REVIEW

### 2.1 Introduction

During the last ten years, the rapid development of internet has promoted the application of electronic human resource management (E-HRM) in business organizations. According to CedarCrestone (2006), the number of companies adopting E-HRM is continually increasing. Consequently, the interest of academic research on E-HRM has been growing, as several HR-related journals stated. (Stanton & Coovert, 2004; Viswesvaran, 2003). Despite the importance of E-HRM application has increasingly been recognized, the factors influencing the adoption of E-HRM have seldom been examined (Strohmeier 2009). In this study, the focus is E-HRM adoption in China. This chapter will provide theoretical constructs for presenting a model (see chapter 3), and evaluating the factors influencing the adoption of E-HRM among China's companies.

### 2.2 The definition of E-HRM

The term E-HRM, inspired by the term of e-commerce, was first used in late 1990s. Many definitions related to E-HRM have been proposed since the early studies on the intersection between information technology (IT) and human

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resource management (HRM) (Bondarouk, 2009). There are also several similar terms around E-HRM that can be found from many researches, such as virtual HR (Lepak & Snell, 1998), human resource information system (HRIS) (DeSanctis 1986), internet-related HRM (Ngai & Law, 2006), etc. However, these terms are just a narrow intension of E-HRM (Strohmeier, 2007). Hence, in this paper the term E-HRM is used.

Currently the E-HRM concepts have flourished, but with little consistency in sight. Lednick-Hall and Moritz (2003) defined E-HRM as applying intranet or internet to conduct HR activities. Voermans and Van Veldhoven (2007) narrowly defined that E-HRM is to provide the administrative support for HR function in an organization through information technology.

Other researchers have expanded the definition of E-HRM. For example, Lepak and Snell (1998) described the E-HRM as a web-based structure mediated by information technology to assist organization to obtain, deploy and improve the talented human capital. Strohmeier (2007) defined E-HRM as: “planning, implementation and application of information technology for both networking and supporting at least two individual or collective actors in their shared performing of HR activities”. Bondarouk and Ruel (2006) defined that E-HRM is a way of executing HRM policies, strategies and activities in organizations through web technology.

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The definition of E-HRM has not been standardized by researchers yet. After a nearly two years' discussion with E-HRM researchers, Bondarouk (2009) came up with an E-HRM definition based on the consensus understanding of E-HRM. They define E-HRM is:

“An umbrella term covering all possible integration mechanisms and contents between HRM and Information Technologies aiming at creating value within and across organizations for targeted employees and management”.

E-HRM refers to any type of HR activities, either administrative or transformational, as long as that can be supported by information technology. E-HRM also concerns any type of information technology that can support HR practices, whatever it is intranet, internet or ERP system (Olivas & Zapata, 2007; Lau & Hooper, 2008; Panayotopoulou, 2007).

### **2.3 The differentiation of E-HRM and HRIS**

In the past several years, the study on organizational adoption of human resource information system (HRIS) has been conducted in different countries by some researchers (DeSanctis, 1986; Kovach, 1999; Teo, 2007; Troshani & Gerrard, 2010). Some may think the adoption of HRIS is equivalent to the adoption of E-HRM. As a matter of fact, there is a differentiation between the term HRIS and E-HRM.

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According to DeSanctis (1986), HRIS was first defined as “a specialized information system within traditional functional areas of the organization, designed to support the planning, administration, decision-making, and control activities of human resource management”. Years later, Haines and Petit (1997) considered HRIS as a system applied within an organization to obtain, store, manage, analyze, search and distribute human resource information.

However, E-HRM is considered as a web-based technology solution that makes use of the latest information and communication technology to deliver online and real-time human resource management solution (Olivas & Zapata, 2007). Basically, HRIS is guided towards the HR department, which serves the managers and staff within HR department. While it can be said that E-HRM technically unlocks the HRIS for the employee all over the organization, not just for HR manager and staff (Gueutal & Stone, 2005). The management outside HR department is also actively involved in the E-HRM application. The following part will elaborate how information technology supports and effectively improve HRM practices.

## **2.4 E-HRM applications and its benefits**

With the wide-spread use of internet and information technology, the IT application of internet is becoming a more and more important issue in HRM research. Santos and Kuzmits (1997) suggested that HR professionals should

not ignore the advantages of applying internet, which can reduce communication costs, improves internal and external communication and information management. Lai (2001) figured out that the application of intranets also can provide support for HRM transactions, such as information retrieval, database access, etc, which is also a very convenient and efficient way for companies to offer timely information to their employees. Many studies have described a variety of usefulness of internet and information technology to HRM activities, and some of them currently have been taken into HRM practices. The literature summary of E-HRM applications showed in Table 2.1.

E-HRM applications	Reference
Recruitment and selection	Hogler et al. (1998); Bussler and Davis (2001); Dineen and Ash (2002); Kumar (2003); Dineen et al. (2004); Pollitt (2004)
Training and development	Marquardt (1996); Anderson (1999); Teare (2000); Foia (2000); Long and Smith (2003); Gasco et al. (2004);
Payroll and compensation management	Perrin (2001);Payton (2003)
Performance appraisal	Hansen and Deimler (2001)
Human resource planning	Walker (1993); Lin (1997); Blancato and Paredes (2003)
Internal and External communication	Santo and Kuzmits (1997); Lai (2001); Kuzmits and Santos (2003);Thomas (2004)
Employee self-service	O' Connell (1996); Roberts (1999); Bergkamp (2003); Hendrickson (2003); Caterinicchia (2005)
Knowledge management	Swart & Kinnie (2003); Ardichvili (2002); Haesli & Boxall (2005); Oltra (2005)

Table 2. 1: Literature summary of E-HRM applications

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### **2.4.1 Recruitment and selection**

Researches on the internet application to HRM activities have been conducted, such as online recruiting, pre-employment test, employee selection, etc. Bussler and Davis (2001) pointed out that online recruiting is a big trend for HR functions.

Recent years more and more companies have begun to adopt online channel to recruit employees, which changed the employment practices for both job seekers and companies. Job seekers can deliver their e-resume through internet to recruitment site or company home. For companies, if the vacancies appear in an organization, department managers can online type in recruitment application, and at the same time the company's information system will automatically extract the employment conditions, main duties and other requirements from job description in the personnel database in order to modify and confirm. After the recruitment application being approved, system can immediately release online job information. Through the internet job candidates' e-resume can be scanned by companies for identifying education background, required skills and work experience, and the relevant information will be transferred into candidate database of E-HRM system of the organization for current or future use. Meanwhile, the whole process in relation to recruitment management will be completed on the network, including the identification of a candidate, interviewers, interview time and place, interview

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questions, interview evaluation form, etc. (Dineen et al., 2004; Pollitt, 2004). Candidates once hired, their basic information will directly transfer from candidate database into company's employee repository, which is a completely digital method of recruitment.

### **2.4.2 Training and development**

A number of HRM studies depicted internet and IT applications for supporting organizations' employee training and development. (Anderson, 1999; Long and Smith, 2003; Gasco et al., 2004; Byers, 2005). The web-based training is a popular way for distance learning, through which employees can take part in relevant training program offered by their organizations wherever they are.

Traditional approach to training puts employees together in particular place to accept certain training program, which delivers employees to the front of information. Differentiated with the traditional way, web-based training sends the information to the front of employees. They can online view the latest information on training courses, which can be found by name, data, region and other paths. When an employee select a training course, he/she can see some of other information related to this course, such as the required number of trainees, course outline, location, condition schedule, cost, etc. (Stephanie Jones, 2009). Employees also can view their training history, which can be deleted when needed. After the online training, evaluation of training

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effectiveness is also achieved through the network.

### **2.4.3 Payroll and compensation management**

Perrin (2001) pointed out that a number of companies have been moving their HRM activities to the web in order to improve HR efficiency, including the pay and benefits service, such as record keeping, salary calculation, etc. Organizations can streamline the data on wages, salaries and other benefits to online payroll and compensation application, through which salary calculations, statistics, distribution and queries can be achieved. Web technology provides employees a real-time self-check function to understand monthly and historically details of pay, benefits (Payton, 2003).

### **2.4.4 Performance appraisal**

Internet and information technology have an important impact on managing performance appraisal (Hansen and Deimler, 2001). Generally speaking, individual employees have their performance evaluated every several months. Web-related electronic evaluation can make use of information system to record employees' work performance and learning. The supervisors can see the regularly submitted work reports from subordinates at any time, and then conduct relevant guidance and supervision, staff presentation. Employee progress report can also be completed through the network. At the same time, through these real-time data corporate managers can continually discover and



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improve existed management problems in the course of business. The subjective factors in performance appraisal are greatly reduced and the appraisal results tend to be more objective.

#### **2.4.5 Human resource planning**

Lin (1997) described that effective HR planning is the process that assigns the right competent employee to do the right job at the right time. Walker (1993) pointed out information technology is necessary for HR managers to accomplish business-related objectives, which is regarded as assisting HR managers to supervise the employees, decrease labor costs, effectively make use of employees' knowledge, skills, and easily produce reports.

#### **2.4.6 Internal and External communication**

Santo and Kuzmits (1997) mentioned that the intranets and internet effectively enhance the internal and external communication of an organization. Through an organization's network resource, information's fast, direct and extensive communication and integration will be achieved. There are many channels of internal communication based on web-based technology, for example, in-house staff personal web page, forum, chat rooms, bulletin board, and management email.

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### **2.4.7 Employee self-service**

One company can satisfy the different needs of human resource management through the technology of employee self-service (O' Connell, 1996). As a matter of fact, electronic HRM is economical and enables the employees and managers to serve themselves at any time in everywhere, which can liberate HR staff from many HR transactions.

Roberts (1999) revealed, through the self- service portal, that employees can update their data and records by themselves; they can check the balance of their salary accounts, choose employee benefits and transfer funds, set personal performance plans and so forth. In addition, Caterinicchia (2005) pointed out that web portal can improve the communication between employees and their company since it is a two-way channel. Moreover, web portal also offers the latest information of the organization to its employees. At present, it is seen that the web-based application of employee self-service has been adopted by many business organization.

### **2.4.8 Knowledge management**

Knowledge management is a new channel to solve the competitiveness and innovation that are being confronted by more and more business organizations (Swart & Kinnie, 2003). Ardichvili (2002) revealed that knowledge management system (KMS) can assist a company to keep competitive

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advantage among its competitors. Internet and information technology enable KMS to be utilized in the field of human resource management, allowing a share of HR information among different departments within an organization. (Haesli & Boxall, 2005).

From the above it is seen that IT-based electronic human resource management (E-HRM) can be effectively used in various HR functions, whatever it is recruitment, performance appraisal, or HR planning, etc. E-HRM can also improve corporate HR efficiency and enhance internal and external communication of an organization. Therefore, it is very necessary and significant for companies to adopt E-HRM to obtain more competitive advantages in today's fierce competition environment. The next part will elaborate the theoretical background and possible determinant factors of E-HRM adoption.

## **2.5 Theoretical background of E-HRM adoption**

A large number of top managers have provided many resources to adopt and implement new technology or innovation in their respective companies, and Chau (1997) pointed out that the decision to accept new technology or innovation is very important for the current companies. Behrens et al. (2005) revealed that the more a new technology is adopted and implemented by its users, the more chance of success it will obtain. It can be seen that the

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adoption of technology innovation is quite important for both research and practices (Brancheau & Wetherbe, 1990). Electronic human resource management (E-HRM) is commonly regarded as one of the technological innovations for business organizations. In the same way, the adoption of E-HRM is actually a kind of innovation adoption for companies.

Currently research on innovation adoption covers a lot of business fields and industries at both organizational and individual levels. A variety of theoretical frameworks have been applied, in which there are three theoretical constructs widely used by searchers, namely, the Theory of Reasoned Action (TRA) (Fishbein & Ajzen, 1975), Technology Acceptance Model (TAM) (Davis, 1989; Venkatesh and Davis, 1996) and Diffusion of Innovation (DOI) (Moore and Benbasat, 1991; Rogers, 1995). These three theoretical constructs provide a deep understanding of individual's emotional and behavioral reactions to a new technology or innovation (e.g. adopting, utilizing), as well as the determinant factors that influencing their reactions.

So far, TRA, TAM and DOI have offered a primary theoretical framework for many IT & IS-related innovation adoption studies, and a great number of empirical researches were conducted to support these theoretical models. As mentioned earlier, electronic human resource management (E-HRM) is subset of IT-related innovations. Therefore, the above models can also be used as

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theoretical foundation to investigate factors that affecting E-HRM adoption in business organizations. The following part will show the three innovation adoption theories.

### 2.5.1 Theory of reasoned action (TRA)

Theory of reasoned action (TRA) is usually applied to investigate the relationship between attitude and behavior (Ajzen & Fishbein, 1975). TRA assumes that an individual's behavior is directed by his behavioral intention. Here behavioral intention represents how much effort that one person wants to make to conduct the behavior. The behavioral intention is influenced by the individual's attitude toward this behavior and the subjective norms related to the behavior performance. Usually the higher behavioral intention results in higher possibility of performing the behavior. (See Figure 2.1)

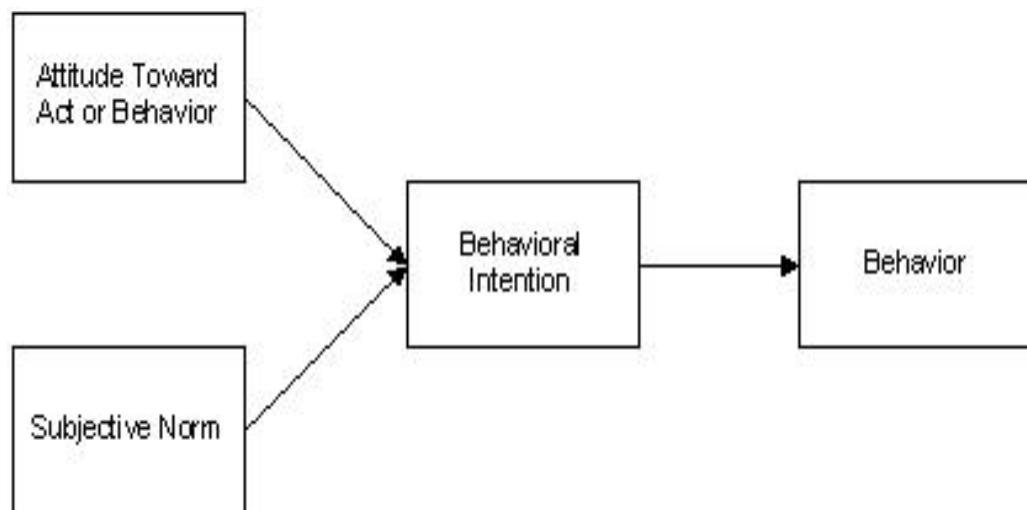


Figure2. 1: Theory of reasoned action (TRA), (Fishbein & Ajzen, 1975)

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The definition of attitude toward a behavior is “an individual’s positive or negative feelings (evaluative affect) about performing the target behavior” (Fishbein & Ajzen, 1975, p. 216). An individual’s attitude towards a behavior can be determined by the evaluation of his beliefs about the results deriving from this behavior. Simply speaking, if the behavior’s consequence is assessed beneficial to an individual, he will intend to conduct the behavior. However, if it is evaluated to be harmful or not beneficial, he will not intend to conduct the behavior.

The definition of subjective norm is “a person’s perception that most people who are important to him/her think he/she should or should not perform the behavior in question” (Fishbein & Ajzen, 1975, p. 302). Werner (2004) indicated that subjective norms are related to the subjective judgment of a person based on others’ opinions and preference. It means that an individual’s behavior can be influenced by the people around him/her, who can be his /her subordinates, colleagues, leaders, experts, friends, and so on.

Within the organizational level, a senior manager or policy maker’s positive attitude towards a new technology may contribute to the company to adopt this technological innovation, and vice versa. Correspondingly, if the people who are important to the senior manager or policy maker think his company should adopt an innovation, and the possibility of adoption decision will be higher. In the case of E-HRM adoption, senior HR manager’s positive attitude and

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subjective norms towards electronic human resource management may be advantageous to the organizational adoption of E-HRM.

Some researchers have pointed out that TRA model has some limitations. For example, the confusing risk between attitude and subjective norms, as it is known that personal attitude usually can be reorganized as subjective norms. Also, assuming once a person forms an intention to perform certain behavior, they will perform it without limitation. However, in practical context, one person cannot freely perform his behavior because of some organizational, environmental constraints or other unconscious factors. Therefore, it is very necessary to explore other factors that may influence behavioral intention to adopt E-HRM besides personal attitudes and subjective norms.

### **2.5.2 Technology acceptance model (TAM)**

Technology acceptance model (TAM) (Davis, 1986; Venkatesh and Davis, 1996), was adapted from theory of reasoned action (TRA). TAM model tends to explain the relationship between personal attitudes, beliefs and actual application of an innovation. Ditsa (2003) indicated that TAM is a widely utilized theoretical framework to explain people's behavior towards computers' adoption and application in organizations. (See Figure 2.2)

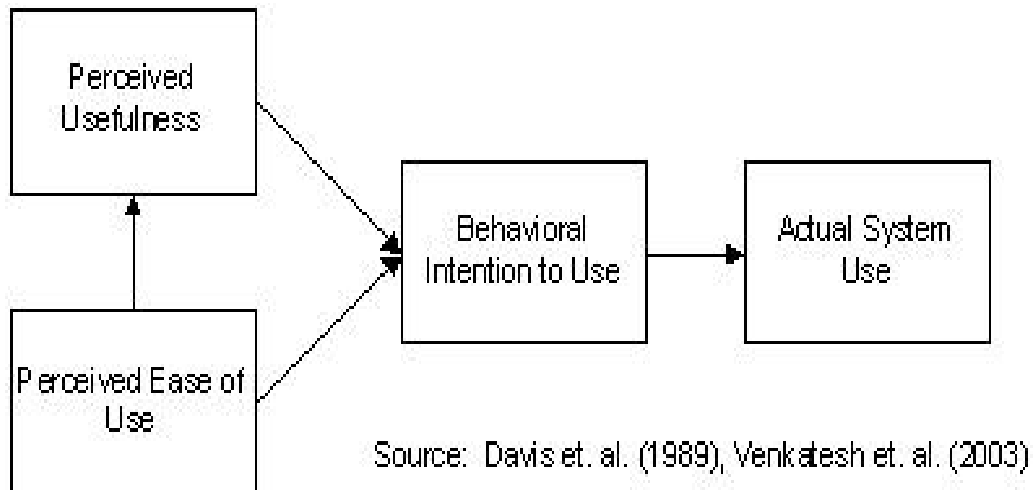


Figure2. 2: Technology acceptance model (TAM) (Davis, 1989)

TAM assumes that an individual's behavioral intention to adopt and use an innovation is determined by the innovation's perceived usefulness and perceived ease of use, and the behavioral intention is considered as a mediator to cause an actual system use.

The perceived usefulness is defined as "the degree to which a person believes that using a particular system would enhance his or her job performance". The definition of perceived ease of use is "the degree to which a person believes that using a particular system would be free of effort" (Davis, 1989, p. 320). Some researchers removed the attitude construct which has been found from TRA in order to simplify the TAM models in terms of their specification (Venkatesh et. al., 2003).

Based on the TAM model, it can be seen that, for the adoption of E-HRM, the



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more usefulness of E-HRM one company perceived, the more possible the company may make the decision to adopt. In the same way, the more easily E-HRM can be applied, the more likely one company is to adopt E-HRM application.

Kishore (1999) indicated that the technology acceptance model (TAM) (Davis, 1989) and the diffusion of innovation model (DOI) (Rogers, 1995) are the most commonly applied theoretical framework to a number of empirical studies on IT & IS-related innovation adoption. The following part will focus on DOI model.

### **2.5.3 Diffusion of innovation model (DOI)**

Diffusion of innovation model (DOI) is defined by Rogers (1995, p. 5) as “the process by which an innovation is communicated through certain channels over time among the members of a social system”. Rogers (1995, p. 11) referred the innovation to a process of perceiving an object or idea as new by an individual or another adoption unit. Damanpour (1991) stated that many scholars research the innovation adoption in different levels, including personal level, business organization (companies) level and industry level. This paper concentrates on the adoption of innovation in an organizational level.

There are five types of innovation adopters in Rogers (1995)’s model, they are

innovators, early adopters, early majority, late majority and laggards. The following Table 2.2 shows the adopters' different types and characteristics (Rogers, 1995; Cain & Mittman, 2002).

<b>Innovation Adopters and Characteristics</b>	
<b>Categories</b>	<b>Characteristics</b>
<b>Innovators</b>	<b>(Venturesome)</b> <ul style="list-style-type: none"> <li>▪ Venturesome and eager to try new ideas</li> <li>▪ Cosmopolite</li> <li>▪ Geographically dispersed contacts</li> <li>▪ High tolerance of uncertainty and failure</li> <li>▪ May or may not be respected by peers</li> </ul>
<b>Early Adopters</b>	<b>(Respect)</b> <ul style="list-style-type: none"> <li>▪ Well-respected opinion leadership</li> <li>▪ Well integrated inn social system</li> <li>▪ Judicious and successful use of innovation</li> </ul>
<b>Early Majority</b>	<b>(Deliberate)</b> <ul style="list-style-type: none"> <li>▪ Deliberate before adopting new idea</li> <li>▪ Highly interconnected with a peer system</li> <li>▪ Just ahead of the average</li> </ul>
<b>Late Majority</b>	<b>(Sceptical In general)</b> <ul style="list-style-type: none"> <li>▪ Approach innovations with caution and skepticism</li> <li>▪ Responsive to economic necessity</li> <li>▪ Responsive to social norms</li> <li>▪ Limited economic resources</li> <li>▪ Low tolerance for uncertainty</li> </ul>
<b>Laggards</b>	<b>(Traditional)</b> <ul style="list-style-type: none"> <li>▪ Hold on to traditional values</li> <li>▪ Relatively isolated</li> <li>▪ Precarious economic situation</li> <li>▪ Suspicious of new innovations and change agents</li> </ul>

**Source:** Adapted from Rogers (1995) and Cain & Mittman (2002)

Table 2. 2: Innovation adopters and characteristics

Rogers (1995) also identified five innovation characteristics that influence the extent of innovation diffusion: they are relative advantage, compatibility, complexity, observability and trialability. These items are commonly used by many researchers as technological factors to measure their impacts on

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innovation adoption in business organizations. The definitions of these five innovation characteristics are as follows:

Relative advantage—refer to “the degree to which an innovation is perceived as better than the idea it supersedes” (Rogers, 2003)

Compatibility—refer to “the degree to which an innovation is perceived as being consistent with the existing values, past experiences, and needs of potential adopters”.

Complexity—refer to “the degree to which an innovation is perceived as difficult to understand and use”.

Observability—refer to “the degree to which the results of an innovation are visible to others”.

Trialability—refer to “the degree to which an innovation may be experimented with on a limited basis”.

According to Rogers (1995), complexity has a negative relationship with the adoption of technology innovation, while all the other factors have a positive relationship with the adoption of technology innovation. In other words, in the case of E-HRM adoption, if one company perceives E-HRM's relative

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advantages, which fits the company's operation and present needs with less complexity, then the E-HRM is more likely to be faster adopted by the company.

The social system is defined by Rogers (1995, p. 23) as "a set of interrelated units that is engaged in joint problem-solving to accomplish a common goal", in which the units can be subsystems, a group of individuals or organizations. Within the organizational level, it is apparent that innovation adoption units are a variety of organizations. In this paper, the units of E-HRM adoption are the companies located in northeast of mainland China. The social system here relates to these companies' external environment, such as industry pressure, competition, technology support, and so forth.

The innovation theories are commonly applied together with several complementary factors to predict and explain the determinant factors influencing an organization's decision to adopt an innovation (Kittipong, 2009). Correspondingly, this study consolidates the three theories: Theory of Reasoned Action (TRA) (Fishbein & Ajzen, 1975), Technology Acceptance Model (TAM) (Davis, 1989; Venkatesh and Davis, 1996) and Diffusion of Innovation (DOI) (Moore and Benbasat, 1991; Rogers, 1995) as its theoretical foundation to develop the decision framework for E-HRM adoption. As mentioned in Chapter 1, this study identifies the factors affecting E-HRM

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adoption in four contexts, separately individual context, technological context, organizational context and environmental context. The next step will retrieve the earlier literature to seek the potential factors in these four contexts.

## **2.6 Factors influencing E-HRM adoption**

In this study, eight constructive variables that may affect the adoption of E-HRM among China's firms will be examined. The following is a brief discussion of the pertinent influencing factors from individual context, technological context, organizational context and environmental context.

### **2.6.1 Individual context**

#### **2.6.1.1 HR manager's attitude**

The theory of reasoned action (TRA) (Ajzen & Fishbein, 1975) and the technology acceptance model (TAM) (Davis, 1986; Venkatesh and Davis, 1996) have proved that attitude contributes to one individual's intention to perform certain behavior. Nowadays companies are beginning to understand that in order to keep top in the fierce global economy, they have to put more and more attention to develop and retain their employees. Human capital is getting more emphasis than ever before. In the process of managing the whole human resource in one organization, HR manager is playing a very important role in the management team. Thus, it can be seen that to some extent the HR manager's attitude can influence the decision of one company. Particularly, HR

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manager's attitude towards some innovation adoption also affects his/her organization's final decision to a certain degree. Kittipong (2009) indicated that executive's attitude towards electronic customer relationship management (ECRM) has a positive relationship with the organizational adoption of ECRM among Thailand manufacturing firms. In addition, Thong (1995) also pointed out that CEO's attitude toward technology information has a great impact on the decision to IT adoption in Singapore small and medium-sized enterprises (SMEs). The application and benefits of E-HRM has been explained in the previous literature review, HR manager's attitude towards E-HRM can also stimulate the adoption of E-HRM in an organization. Therefore, from the above it can be deduced that HR manager's attitude towards E-HRM has a great influence on the organizational adoption of E-HRM among China's firms.

#### **2.6.1.2 HR manager's subjective norms**

An individual's subjective norms have also been proved by the theory of reasoned actions (TRA) (Fishbein & Ajzen, 1975) to affect his/her behavioral intention. As mentioned in Chapter 2, other people's opinions and preference, such as friends, colleague, leaders, experts, etc., have influence on one person's subjective judgment. HR manager is one of the policy makers in an organization, his/her subjective norms also contribute to the organizational decision to adopt a technological innovation. In other words, if the people who are important or very influential to the HR manager think E-HRM should be

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implemented, the possibility of adoption of E-HRM would be higher. Kittipong (2009) proved that top manager's subjective norm affects the adoption of innovation among organizations. Therefore, we can consider HR manager's subjective norms will influence E-HRM adoption in China's firms.

## **2.6.2 Technological context**

### **2.6.2.1 Departmental relative advantage**

The relative advantage is supported by the innovation theories TAM (Davis, 1986; Venkatesh and Davis, 1996) and DOI (Moore and Benbasat, 1991; Rogers, 1995). Many researchers have found that relative advantage or perceived benefits is an important variable to innovation adoption (Rogers, 1995; Jeon, Han & Lee, 2006; Teo & Tan, 2000; Princely, 2011).

Usually the degree of perceived benefits is expressed with regard to time-saving, cost reduction, performance improvement and profitability (Clemons, 1991). The relative advantage of E-HRM refers to how E-HRM technology will finally benefits for one company when it competes with competitors. E-HRM can improve an HR department's efficiency, simplify HR work process and provide more effective information distribution across departments in one organization (Gueutal, 2005).

Relative advantage has been used as a common factor to examine various

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technological innovations. Teo (2007) pointed out that the perceived advantages of human resource information system (HRIS) for HR department has a very positive relationship with the decision to adopt HRIS in a company. Tiago Oliveira and Maria F. Martins (2010) found the perceived benefits of e-business are an important driver for e-business adoption and implementation among the firms in Europe. Navid Fakhredaei (2007) indicated relative advantage of CRM affect the CRM adoption at the organizational level in Iran's shipping industry. The above suggested that positive perception of advantages of technology innovation should stimulate China companies to apply E-HRM. Thus, it is expected that E-HRM perceived departmental advantage will positively affect E-HRM adoption in China's firms.

#### **2.6.2.2 Compatibility**

Rogers (1995)'s Diffusion of Innovation (DOI) theory found out that compatibility of an innovation had a positive relationship with this innovation adoption. Compatibility was defined by Rogers (1995) as "the degree to which it is perceived as being consistent with the existing values, past experiences and needs of the potential adopter". Make sure that electronic human resource management (E-HRM) is compatible with corporate current system, work environment and practice, corporate value and beliefs, the company will tend to adopt E-HRM.



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Cooper and Zmud (1990) pointed out compatibility is an important indicator to the decision to adopt the system of material requirements planning (MRP). Khong et al. (2009) found out that there is a significant relationship between compatibility and internet-based information and communication technology (ICT) adoption among Malaysian SMEs. Kittipong (2009) illustrated that compatibility has a positive relationship with ECRM adoption at an organizational level. Cooper and Zmud (1990) pointed out compatibility is an important indicator to the decision to adopt the system of material requirements planning (MRP). Yeh (1997) revealed that users' resistance to change in one organization is the main obstacles to implement human resource information system (HRIS). So the companies with innovative corporate culture are more likely to adopt technology innovation. Other previous researches also have indicated that compatibility affects innovation adoption (Thong, 1999; Grover, 1993). Therefore, we can consider that the perceived compatibility of E-HRM with a firm's objectives, IT environment, and work practice will be positively related to its adoption.

### **2.6.2.3 Complexity**

An innovation complexity is commonly recognized negatively associated with innovation adoption by many studies. (Tornatzky & Klein 1982; Rogers, 1995; Grover 1993; Thong, 1999). Fichman and Kemerer (1997) pointed out at given time, the knowledge and skills that one organization has is related to their

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current work practice and management process. So a complicated innovation will add the knowledge and relevant skills that an organization needs so as to effectively adopt this innovation. The knowledge gap will increase a certain degree of uncertainty of the innovation. The innovation with complexity needs more knowledge and operational efforts to increase the possibility of adoption. Teo et al. (2007) found that complexity is a negative predictor to the organizational adoption of human resource information system (HRIS). Based on the aforementioned, it can be deduced that complexity will be an inhibitor to the E-HRM adoption among China's companies.

### **2.6.3 Organizational context**

Grover and Golslar (1993) believed that organizational factors can influence innovation adoption in firms. Previous researches have examined several organizational characteristics, some of which have been applied as determinants of affecting innovation adoption.

#### **2.6.3.1 Top management support**

Top management support has been demonstrated to be important factor for innovation adoption in one company in order to overcome barriers and resistance. Premkumar and Roberts (1999) pointed out that it is quite important for top management to provide various resources and set up a positive organizational environment to support the adoption of a new

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technology.

Rai and Bajwa (1997) investigated the factors influencing the adoption of executive information system (EIS), two organizational factors: top management support and organization size are included in their conceptual framework, both of which are indicated to be positive factors to EIS adoption. In accordance with many studies, Bradford and Florin (2003) revealed that it is more likely to implement enterprise resource planning (ERP) system for a company with the sufficient support from its top management. Fink (1998) identified that top management support has a positive relationship with the adoption and implementation of information technology (IT). Based on the above discussion, it can be expected that the more top management support E-HRM application, the more likely one company will actually adopt E-HRM.

### **2.6.3.2 IT expertise**

Kwon and Zmud (1987) suggested that IT expertise can be considered as a factor to affect innovation adoption. A lot of business organizations have to delay their adoption of IT-related innovation because of the deficiency of essential IT knowledge and skills. Gable and Raman (1992) found that the rejection of IT-related innovation among small and medium-sized companies results from lack of IT knowledge by both employees and employer. In this study, IT expertise refers to the HR staff's IT knowledge and competence.

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Roberts (1999) pointed out HR staff need to understand the working knowledge of all HR functions and information system. It is seen that the more computer-literate the employees are, the more likely one organization adopt IT-based innovation. In contrast, the deficiency of IT knowledge among employees will restrict or block the organizational adoption of technology innovation. Teo (2007) indicated IT expertise in an organization is a strong predictor to the decision to adopt HRIS in Singapore firms. In the same way, it can be deduced that IT expertise will also have an impact of the adoption of E-HRM in China's firms.

#### **2.6.4 Environmental context**

##### **Industry pressure**

Kittipong (2009) demonstrated industry pressure was associated with organizational adoption of innovation. In this study industry pressure refers to the entire trend, direction of operational practices and the extent of competition that drive a company to adopt technology innovation so as to survive in the industry and keep its competitive advantages. Industry pressure is an external factor, which is beyond the control of the company. McCormick (1999) pointed out that within the global economic environment, the pressure in each industry keeps growing, which pushes business organizations' HR department to transform to play a more strategic role. If an organization cannot effectively and efficiently manage its people, it would not be competitive. Electronic

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human resource management (E-HRM) can assist to reduce communication costs, improves internal and external communication and information management (Santos & Kuzmits, 1997). Therefore, we can deduce that in order to keep competitive advantage, the external factor industry pressure will lead organizations to adopt E-HRM.

## **2.7 Summary**

This chapter reviewed the previous literature related to E-HRM and innovation adoption. The literature to be reviewed for this chapter includes the definition of E-HRM, the differentiation between electronic human resource management (E-HRM) and human resource information system (HRIS), the applications of E-HRM and its related benefits for organizations, the theoretical background of this study (TRA, TAM and DOI) was described, and the factors mentioned by previous studies that may influence the organizational adoption of E-HRM were also presented. In the next chapter research model of this study, hypothesis development, and methodology applied will be discussed.